

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A ceramic heater comprising:

a ceramic substrate having a work-heating surface which is configured to contact directly with a work to be heated or to face a work to be heated across a space between the work-heating surface and the work to be heated; and

a heating element disposed either on a surface of the ceramic substrate opposite to the work-heating surface or in the ceramic substrate,

wherein the work-heating surface has a JIS B 0601 surface roughness of $R_{\max} = 0.05$ ~~0.2~~ to $200\ \mu\text{m}$, and

~~the surface opposite to the work heating surface is flat.~~

Claim 2 (Currently Amended): A ceramic heater comprising:

a ceramic substrate having a work-heating surface which is configured to contact directly with a work to be heated or to face a work to be heated across a space between the work-heating surface and the work to be heated; and

a heating element disposed either on a surface of the ceramic substrate opposite to the work-heating surface or in the ceramic substrate,

wherein said ceramic substrate contains an element other than its dominant constituent elements and the work-heating surface has a JIS B 0601 surface roughness of $R_{\max} = 0.2$ to $200\ \mu\text{m}$, and

~~the surface opposite to the work heating surface is flat.~~

Claim 3 (Previously Presented): The ceramic heater according to Claim 1

wherein said ceramic substrate is at least one member selected from the group consisting of a nitride ceramic, a carbide ceramic and an oxide ceramic.

Claim 4 (Currently Amended): A ceramic heater comprising:

a nitride ceramic substrate having a work-heating surface which is configured to contact directly with a work to be heated or to face a work to be heated across a space between the work-heating surface and the work to be heated; and

a heating element disposed either on a surface of the nitride ceramic substrate opposite to the work-heating surface or in the nitride ceramic substrate,

wherein said nitride ceramic substrate contains an element other than its principal constituent elements and the work-heating surface has a JIS B 0601 surface roughness of $R_{max} = 0.2$ to $200 \mu m$, and

~~the surface opposite to the work heating surface is flat.~~

Claim 5 (Currently Amended): A ceramic heater comprising:

a nitride ceramic substrate having a work-heating surface which is configured to contact directly with a work to be heated or to face a work to be heated across a space between the work-heating surface and the work to be heated; and

a heating element disposed either on a surface of the nitride ceramic substrate opposite to the work-heating surface or in the nitride ceramic substrate,

wherein said nitride ceramic substrate contains at least one element selected from Na, B, Y, Li, Rb and Ca and the work-heating surface has a JIS B 0601 surface roughness value of $R_{max} = 0.2$ to $200 \mu m$, and

~~the surface opposite to the work heating surface is flat.~~

Claim 6 (Canceled).

Claim 7 (Previously Presented): The ceramic heater according to Claim 4 wherein the content of at least one element selected from the group consisting of Y, Li, Rb and Ca is not less than 0.1 weight %.

Claim 8 (Previously Presented): The ceramic heater according to Claim 4 wherein the content of at least one element selected from the group consisting of Na and B is not less than 0.05 ppm.

Claim 9 (Previously Presented): The ceramic heater according to Claim 2, wherein said ceramic substrate is at least one member selected from the group consisting of a nitride ceramic, a carbide ceramic and an oxide ceramic.

Claim 10 (Canceled).

Claim 11 (Previously Presented): The ceramic heater according to Claim 5 wherein the content of at least one element selected from the group consisting of Y, Li, Rb and Ca is not less than 0.1 weight %.

Claim 12 (Previously Presented): The ceramic heater according to Claim 5 wherein the content of at least one element selected from the group consisting of Na and B is not less than 0.05 ppm.

Claim 13 (Previously Presented): The ceramic heater according to Claim 1, wherein a semiconductor wafer is heated while being held by a supporting pin at a distance of 1 to 5000 μm apart from the work-heating surface of the ceramic heater.

Claim 14 (Previously Presented): The ceramic heater according to Claim 2, wherein a semiconductor wafer is heated while being held by a supporting pin at a distance of 1 to 5000 μm apart from the work-heating surface of the ceramic heater.

Claim 15 (Previously Presented): The ceramic heater according to Claim 4, wherein a semiconductor wafer is heated while being held by a supporting pin at a distance of 1 to 5000 μm apart from the work-heating surface of the ceramic heater.

Claim 16 (Previously Presented): The ceramic heater according to Claim 5, wherein a semiconductor wafer is heated while being held by a supporting pin at a distance of 1 to 5000 μm apart from the work-heating surface of the ceramic heater.

Claim 17 (Previously Presented): The ceramic heater according to Claim 1, wherein thermal conductivity of said ceramic substrate is 130 to 200 W/m·K.

Claim 18 (Previously Presented): The ceramic heater according to Claim 2, wherein thermal conductivity of said ceramic substrate is 130 to 200 W/m·K.

Claim 19 (Previously Presented): The ceramic heater according to Claim 4, wherein thermal conductivity of said ceramic substrate is 130 to 200 W/m·K.

Claim 20 (Previously Presented): The ceramic heater according to Claim 5, wherein thermal conductivity of said ceramic substrate is 130 to 200 W/m·K.

Claim 21 (Previously Presented): The ceramic heater according to Claim 1, wherein a thickness of said ceramic substrate is 0.5 to 5 mm.

Claim 22 (Previously Presented): The ceramic heater according to Claim 2, wherein a thickness of said ceramic substrate is 0.5 to 5 mm.

Claim 23 (Previously Presented): The ceramic heater according to Claim 4, wherein a thickness of said ceramic substrate is 0.5 to 5 mm.

Claim 24 (Previously Presented): The ceramic heater according to Claim 5, wherein a thickness of said ceramic substrate is 0.5 to 5 mm.

Claims 25-26 (Canceled).

Claim 27 (Previously Presented): The ceramic heater according to Claim 1, wherein the ceramic heater is a heater for heating a semiconductor wafer.

Claim 28 (Previously Presented): The ceramic heater according to Claim 2, wherein the ceramic heater is a heater for heating a semiconductor wafer.

Claim 29 (Previously Presented): A ceramic heater comprising:

a ceramic substrate having a work-heating surface which is configured to face a work to be heated across a space between the work-heating surface and the work to be heated; and
a heating element disposed either on a surface of the ceramic substrate opposite to the work-heating surface or in the ceramic substrate,
wherein the work-heating surface has a JIS B 0601 surface roughness of $R_{\max} = 0.05$ to $200\ \mu\text{m}$.

Claim 30 (Previously Presented): A ceramic heater comprising:

a ceramic substrate having a work-heating surface which is configured to face a work to be heated across a space between the work-heating surface and the work to be heated; and
a heating element disposed either on a surface of the ceramic substrate opposite to the work-heating surface or in the ceramic substrate,
wherein said ceramic substrate contains an element other than its dominant constituent elements and the work-heating surface has a JIS B 0601 surface roughness of $R_{\max} = 0.2$ to $200\ \mu\text{m}$.

Claim 31 (Previously Presented): A ceramic heater comprising:

a nitride ceramic substrate having a work-heating surface which is configured to face a work to be heated across a space between the work-heating surface and the work to be heated; and
a heating element disposed either on a surface of the nitride ceramic substrate opposite to the work-heating surface or in the nitride ceramic substrate,
wherein said nitride ceramic substrate contains an element other than its principal constituent elements and the work-heating surface has a JIS B 0601 surface roughness of $R_{\max} = 0.2$ to $200\ \mu\text{m}$.

Claim 32 (Previously Presented): A ceramic heater comprising:

a nitride ceramic substrate having a work-heating surface which is configured to face a work to be heated across a space between the work-heating surface and the work to be heated; and

a heating element disposed either on a surface of the nitride ceramic substrate opposite to the work-heating surface or in the nitride ceramic substrate,

wherein said nitride ceramic substrate contains at least one element selected from Na, B, Y, Li, Rb and Ca and the work-heating surface has a JIS B 0601 surface roughness of $R_{\max} = 0.2$ to $200\ \mu\text{m}$.